

**REMARKS**

Examiner Brophy is thanked for her examination of the subject Patent Application. The Specification and Claims have been carefully reviewed with respect to the cited prior art, the Claims has been amended and are considered to be in condition for Allowance.

**Canceled Claims**

As this is a divisional application, parent claims 1-33 have been canceled.

**DETAILED ACTION**

**Claim Objections**

The Examiner writes:

Claim 34 is objected to because of the following informalities: in line 11, there is insufficient antecedent basis for the limitation "said first oxide layers" and should be "said first oxide layer".

The Applicants reply that Claim 34 has been corrected to refer to a single layer.

**35 U.S.C. 102(e)**

Reconsideration of the rejection of Claim 34 under 35 U.S.C. 102(e) as being anticipated by Chen et al (6,013,551 ) is respectfully requested based on the following reasons.

The Examiner writes:

Chen et al teach a flash memory cell structure having a trench isolation comprising:

- A substrate 100;
- A first oxide layer 102 atop the substrate 100 serving as a gate oxide;
- A floating gate 104 atop the first oxide layer 102;
- A trench 1078 formed as a single continuous opening through the floating gate 104 and the first oxide layer 102 and into the substrate 100,



wherein the single continuous opened surfaces of the floating gate, the first oxide layer and the substrate form interior trench walls;

A first conformal layer 108 lining the interior trench walls, said first conformal layer 108 being in contact with and extending over the continuous surfaces of the floating gate 104, the first oxide 102 and the substrate 100;

A second conformal layer 110 lining said interior trench walls, said second conformal layer 110 being in contact with the first conformal layer 108 and extending over the continuous surfaces of the floating gate, the first oxide and the substrate;

An isolation oxide 112 filling the trench, wherein the isolation oxide 112 is devoid of a "smiling" effect in proximity to the floating gate 104;

A second oxide layer 120 atop the floating gate 104;

A third oxide layer 120 atop the floating gate 104 and the trench; and

A control gate 122 atop the third oxide layer.

See Figs. 2A to 2F and accompanying text.

The Applicants reply:

Claim 34 has been amended to read properly on the instant structure and away from the reference structure.

In particular Chen et al. does not use or show a second conformal layer comprising nitride. The use of thin nitride layer as the second conformal layer is key to the instant method for precluding the "smiling effect" resulting from oxidizing operations. The thickness range is specified to be between 100 Å and 300 Å. It is a thin layer, being approximately one half the thickness of the first conformal layer.

The method of Chen et al. is not concerned with a solution to this problem and as such makes use of silicon oxide (PECVD) in a large thickness range from 200 Å to 2000 Å for the second conformal layer. It is the first conformal layer that Chen et al. requires to be thin. (Column 4, lines 46-54). By contrast to the instant second conformal layer, Chen et al. have the second conformal layer being generally much larger than the first layer.



The other significant difference is that the instant structure is formed using a polyoxide intergate dielectric method thereby forming an additional element in the structure, given the instant third oxide and the Chen et al. ONO layer being considered as single dielectric layers. The amended claim 34 reads that the third oxide resides atop the isolation oxide and also atop the second oxide which is atop the floating gate. By contrast, the Chen et al. structure has the ONO layer residing on both the isolation oxide and the floating gate.

The Examiner further writes:

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The Applicants do not pursue this reasoning because they assert that the amended claim 34 now properly describes their invention structure which is different from the reference, despite a common assignee.

#### **New Claims 37 to 44**

In addition to amending Claim 34, new claims 37 to 44 have been added, dependent on Claim 34 for the purpose of further describing the features of the elements found in Claim 34.

We have reviewed the related art references made of record and agree with the Examiner that none of these suggest the present claimed invention.



Application no. 10/029,622

In light of the above arguments, it is suggested that the specification adequately describes the invention and that the Claims now clearly distinguish the invention from the prior art. All claims are therefore believed to be in condition for allowance.

Allowance of all claims is therefore respectfully requested.

It is request that should Examiner Brophy not find that the Claims are now Allowable that the Examiner call the undersigned attorney at 845-452-5863 to overcome any problems preventing allowance.

Respectfully submitted,

A handwritten signature in black ink, consisting of a stylized 'S' and 'A' followed by a horizontal line.

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